

# PHENIX WEEKLY PLANNING



7/15/2010  
Don Lynch

# 2010 Shutdown (Overview)

Start Date      End Date

Design, Eng'g, fabrication, procurement and site preparation tasks  
in support of shutdown tasks

In Progress      12/1

Shutdown Startup Tasks

Done      Done

Gas system maintenance, repair and upgrade

In progress      12/1

PHENIX Infrastructure maintenance, repair and upgrade

In Progress      12/1

Remove RPC Prototypes

In Progress      7/9

Remove HBD

Done      Done

Remove RXNP

Done      Done

Remove/Reinstall BBC

In Progress      9/16

Remove Re-install MPC

In Progress      9/16

RPC3N & MuTrigger unfinished business

In Progress      9/30

Remove current BP, install new BP

7/19      9/10

DC/PC maintenance and repair (mid summer)

7/23      8/13

Install RPC3S

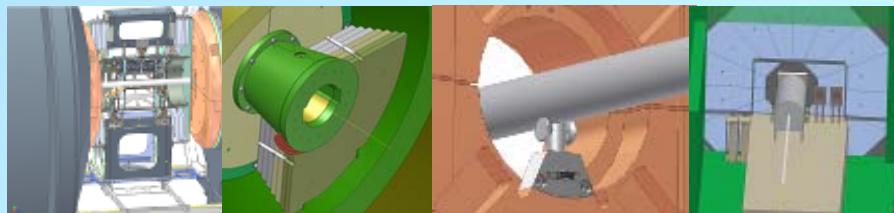
In Progress      12/1

MuTr maintenance, repair and upgrade

8/1      8/20

Install VTX

9/13      12/1



7/15/2010

# Post Run 10 Tasks



TECHNICAL  
SUPPORT  
2010

## Task

Start Date

End Date

Send mass flowmeters out for recalibration (DC/PC, MuID, TOF.W)

In Progress

6/30/2010

AH Crane 110 switch for lockout

In Progress

6/30/09

7/15/2010

**This Week:**

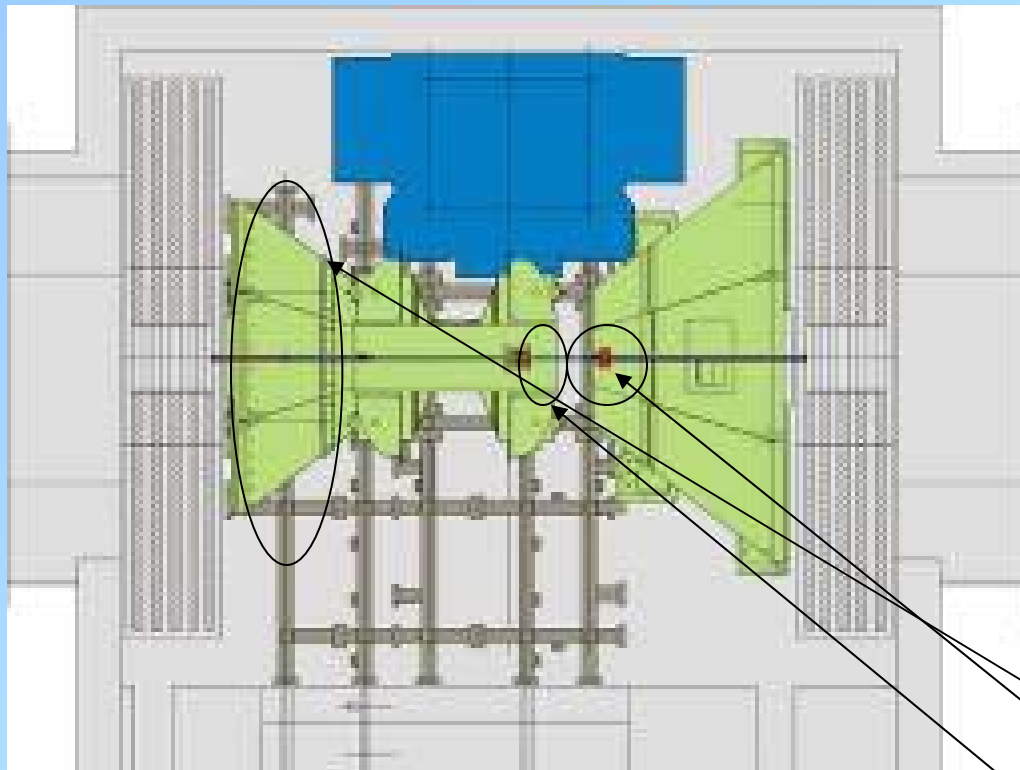
- Continue design of survey/installation tools and fixtures for VTX
- Continue fabrication of parts, installation tools and fixtures for absorber & VTX
- Complete disassembly of HBD, RXNP, BBC, MPC
- Continue RPC3S area prep (legacy check, MuID steel top platforms, lighting, gap r cleaning, start pipes
- Continue prep of MMS for move to AH
- WP's for Absorber, BP & VTX
- Absorber lifting fixture approval?
- DOE VTX Review
- Future upgrades support





- Begin the process for removal of existing beampipe including temporary relocation of EC, MMS and CM
- South tunnel prep for RPC3S (remove pipes, clean gap 5)
- VTX fabrication and assembly
- Begin DC maintenance
- Future upgrades support

*IR is currently in this configuration.*



After normal shutdown tasks including removing the MuID collars, moving the EC to the AH and all other shutdown prep activities, we will be ready to remove the existing beampipe. *Before commencing with removal of the existing beampipe sections verify that both north and south PHENIX beampipe gate valves are closed and locked in the closed position for the duration of the beampipe upgrade effort. Step 1 (move MMS south, remove MPC south, remove BBC south completed)*

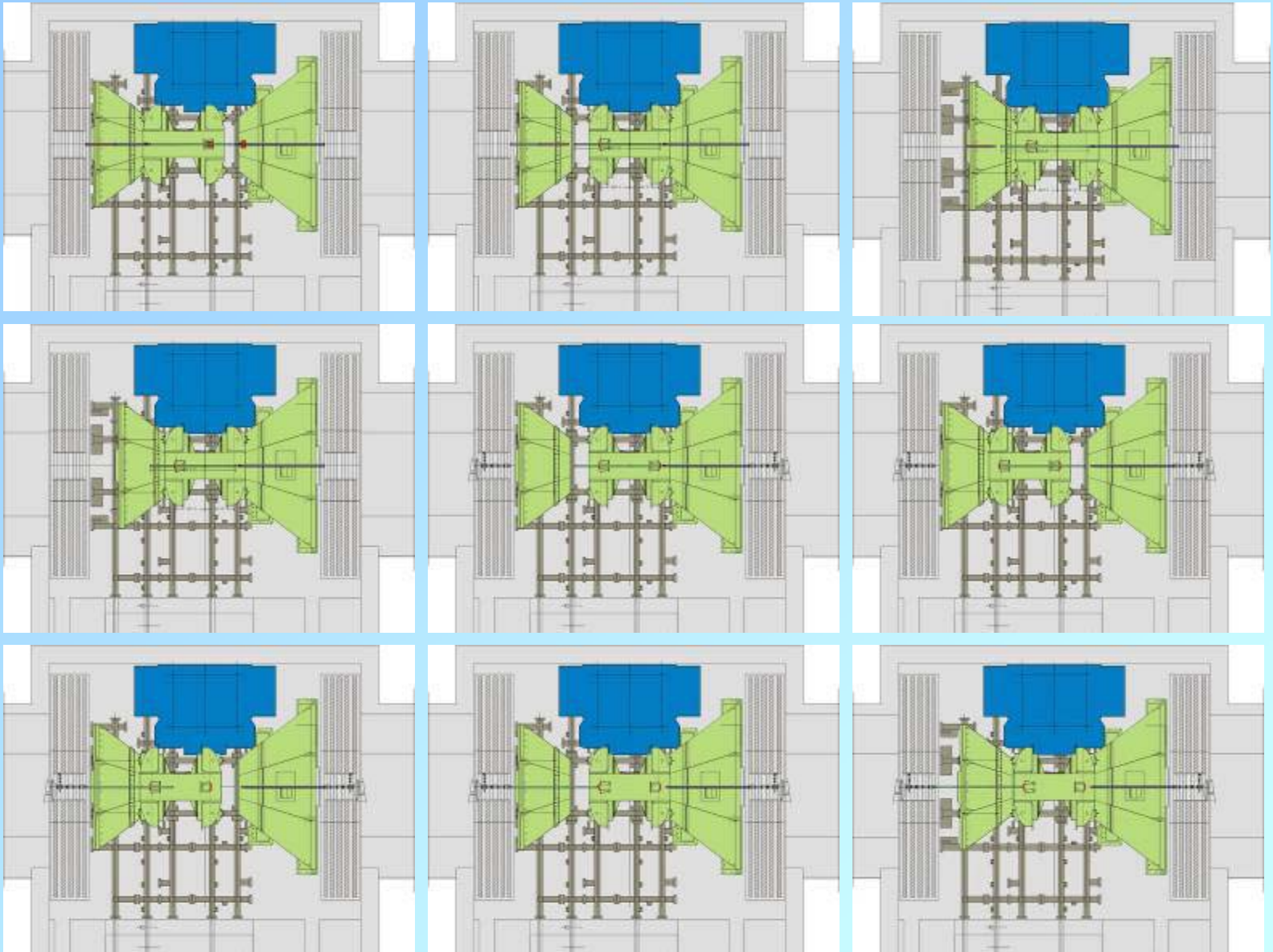
Step 2

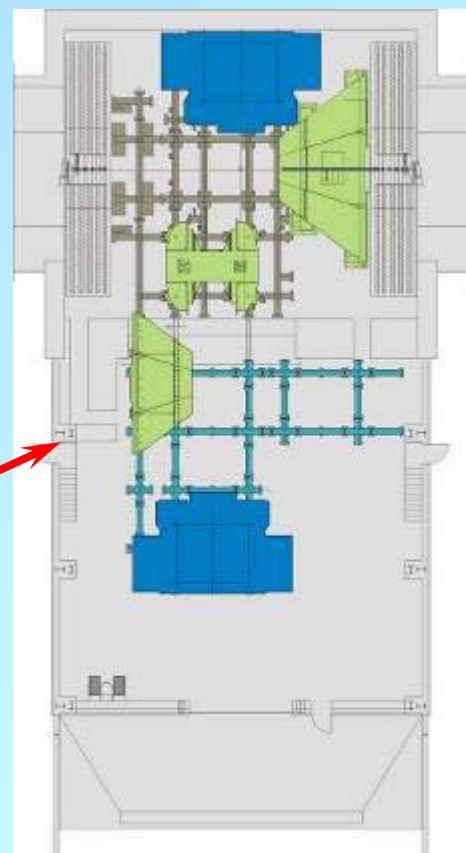
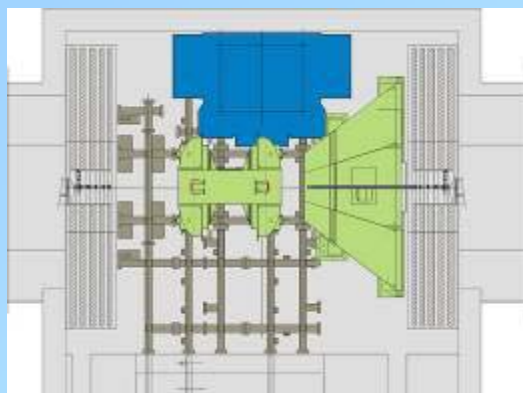
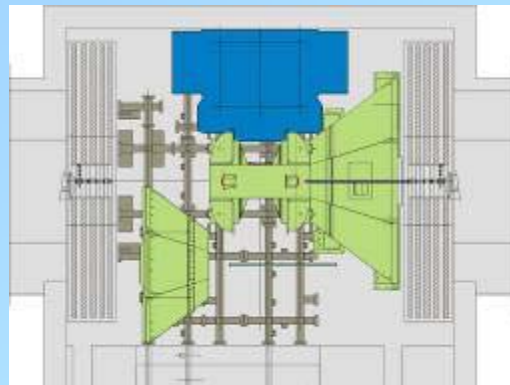
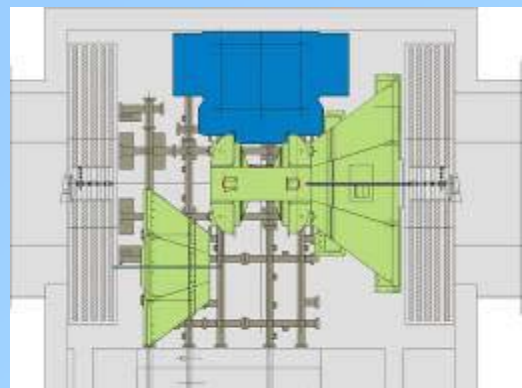
A. move the MMS north.

B. Remove the south MPC

C. remove the south BBC.

# Removal of Existing Beampipe



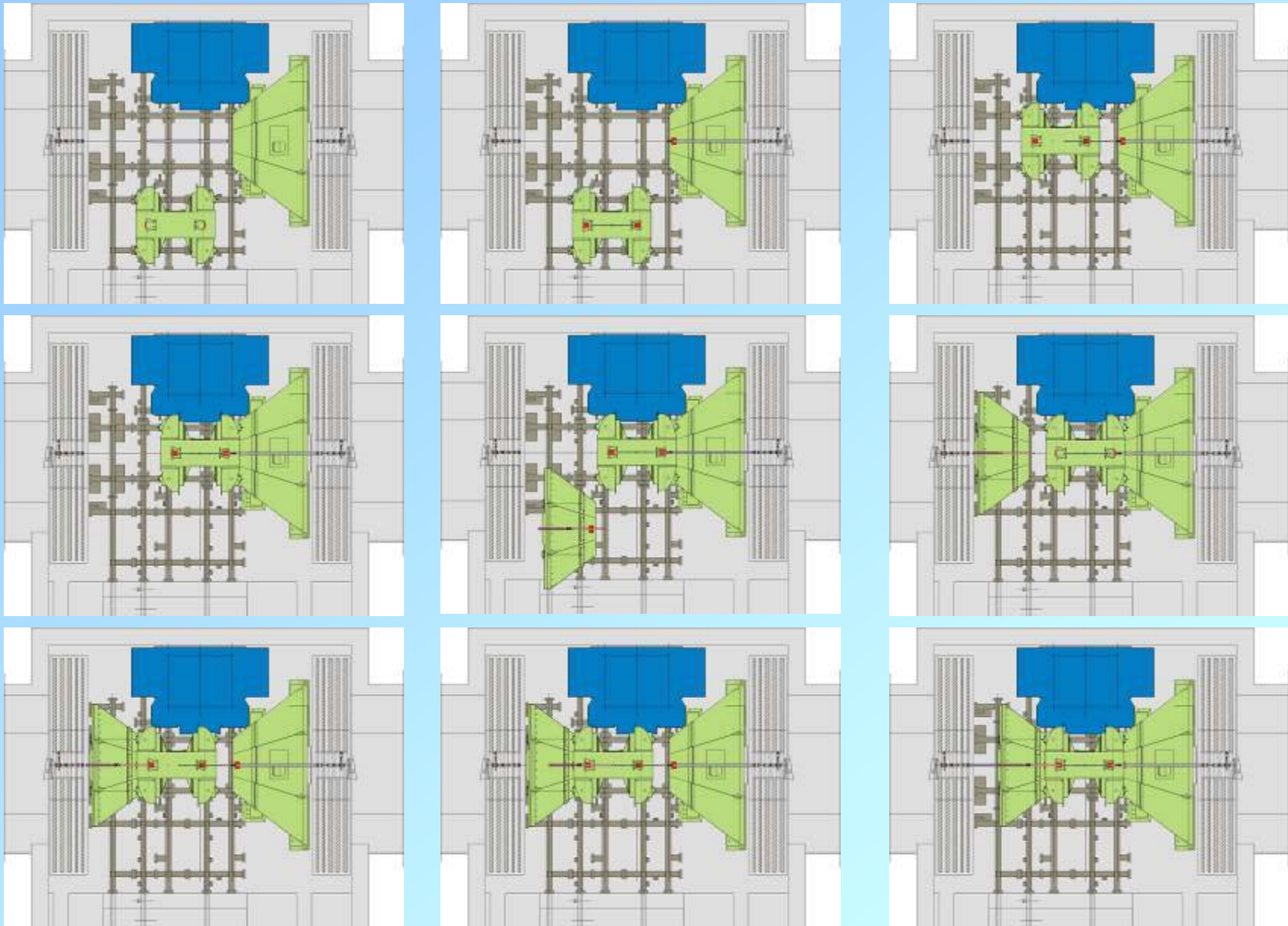


Beampipe Removal is  
complete at this step

# Installation of New Beampipe

PHENIX

TECHNICAL SUPPORT NO-0



7/15/2010

## VTX Strip Pixel Ladder Assembly

- Clean room for ladder assembly



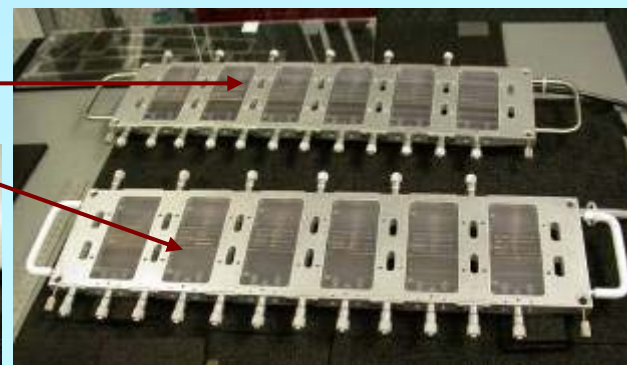
- Bench test: ladder/silicon modules



- Assembly/Survey machine

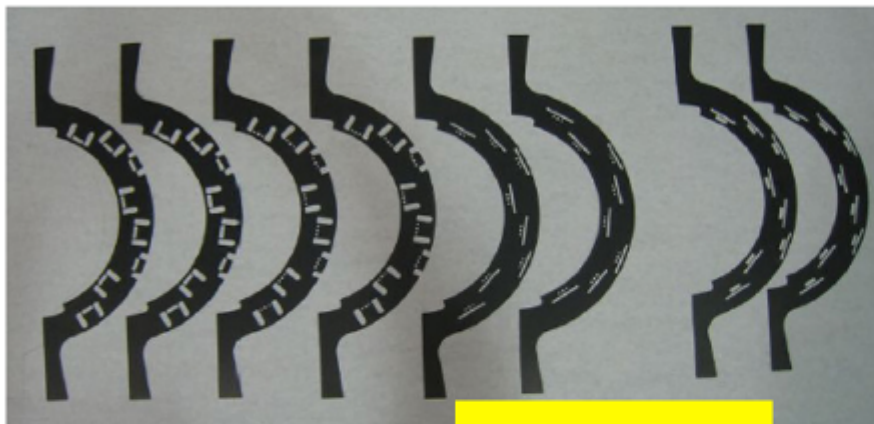


- Assembly fixtures

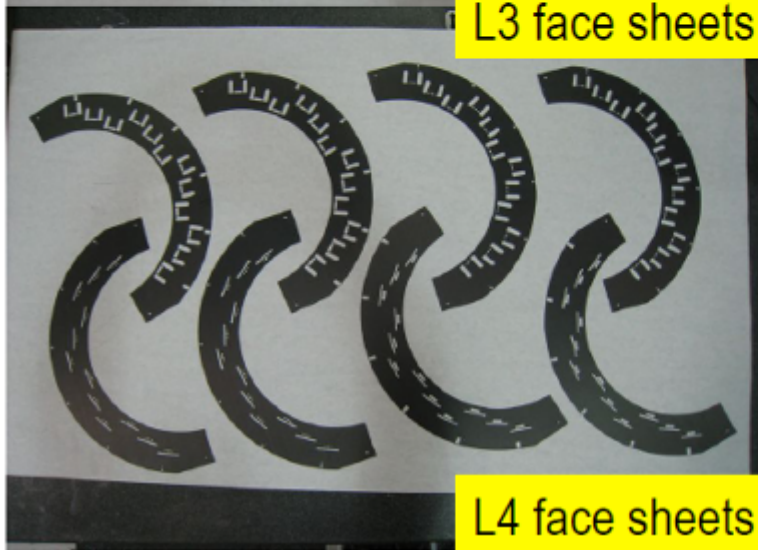


7/15/2010

## Stripixel Barrel Mounts

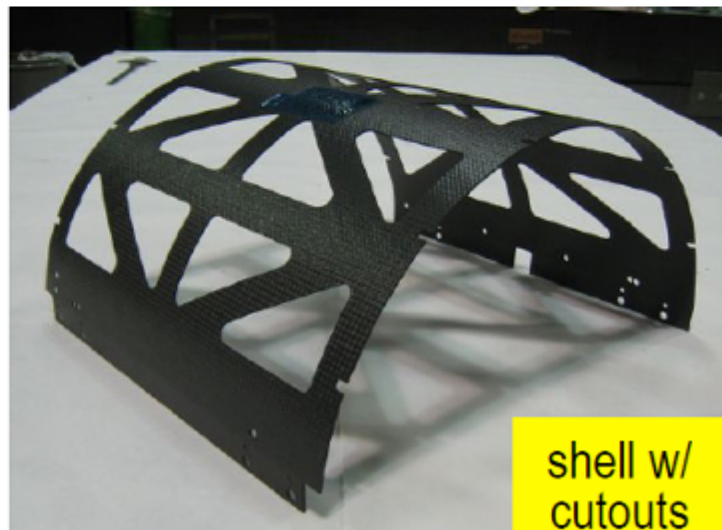


L3 face sheets



L4 face sheets

- All parts & tooling are in LBNL shops
  - K13 from FVTX wedge backplanes for face sheets
  - Carbon foam cut
- ETA: end of July



shell w/  
cutouts

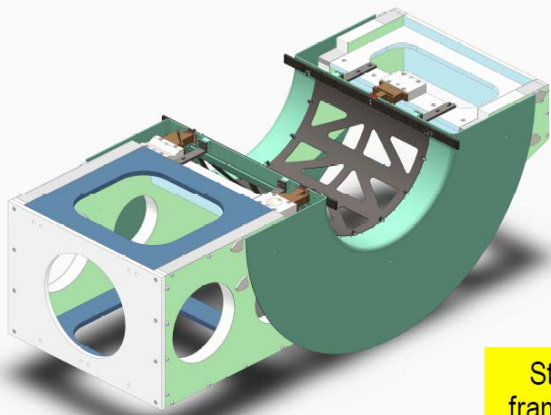
## VTX Barrel Assembly



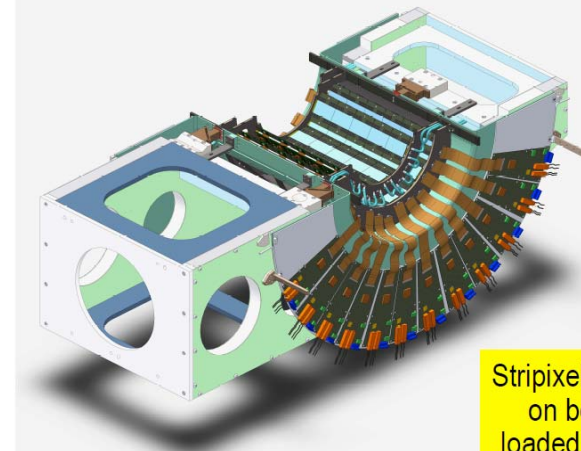
# VTX Final Assembly

PHENIX

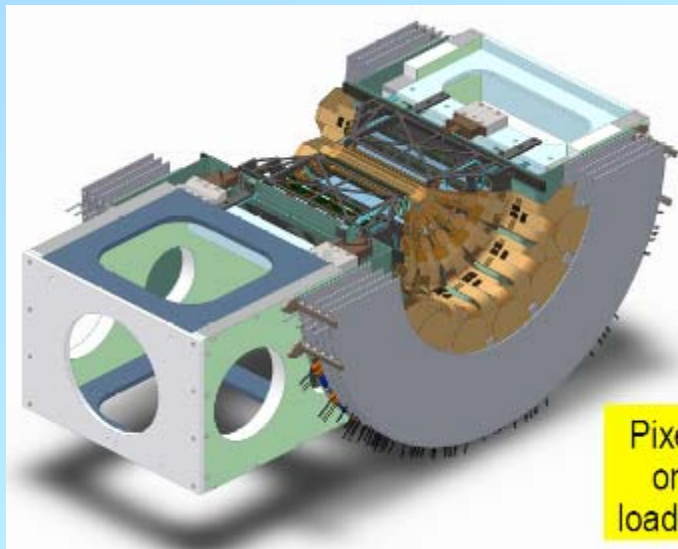
TECHNICAL SUPPORT NO-0



Start loading  
frame Sept. 15<sup>th</sup>



Stripixel layers L3/L4  
on both halves  
loaded by Sept 21<sup>st</sup>

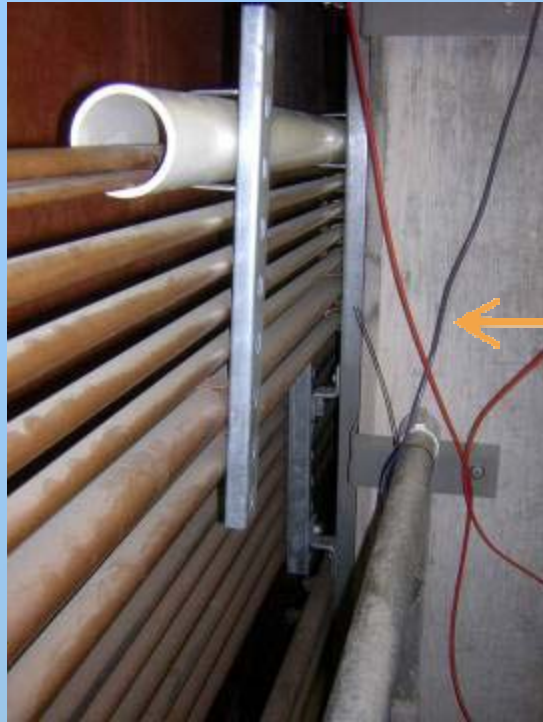


Pixel layers L1/L2  
on both halves  
loaded by Sept 30<sup>th</sup>

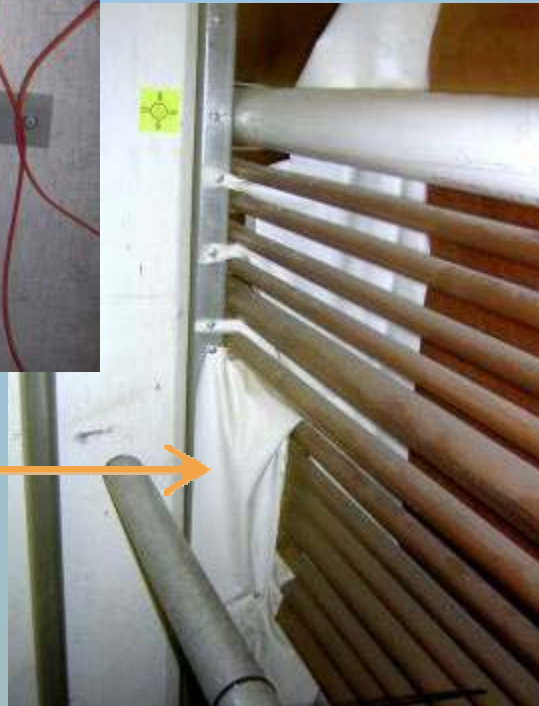
7/15/2010

# South West in Tunnel

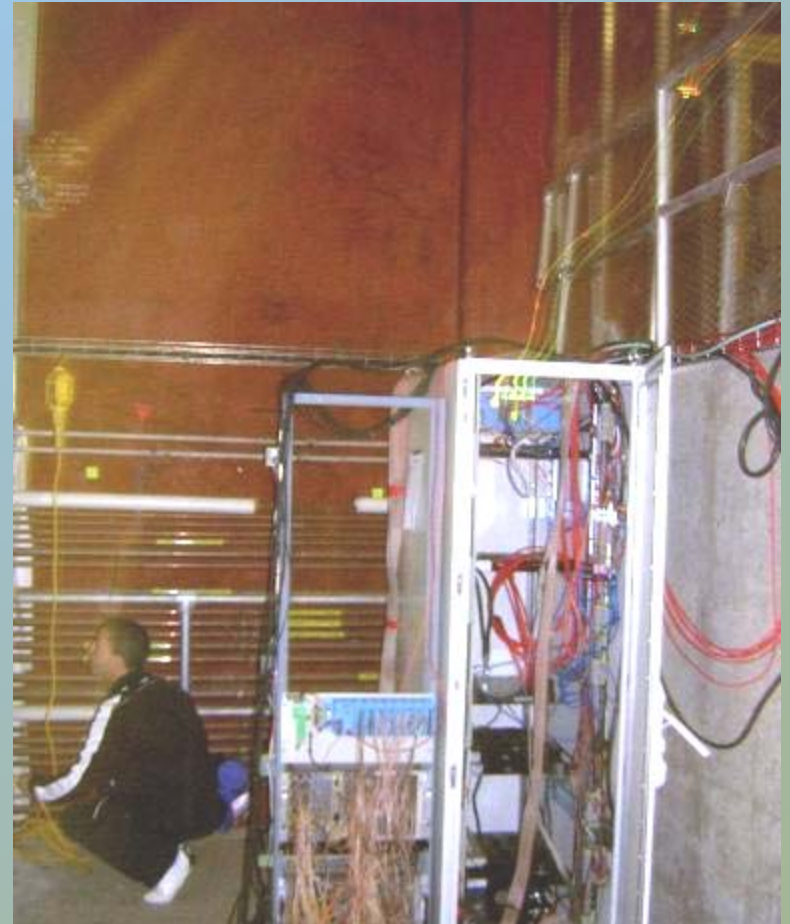
## 51 Pipes to be re-routed



Pipes go  
under beam  
pipe



Gap  
behind  
MuID



All pipes have to be removed to  
install RPC.

3/15/2010 5/12/2010



RPC3S Work in South Tunnel

# DC West Maintenance Probable Time Schedule

**Dates: July 21 - Aug. 13. 18 working days**

**Step 0.  $\frac{1}{4}$  day**

General planning meeting

**Step 1. 3 days**

Start with DAQ running and HV “in hands”

Start gas flow 2.5-3 days

Disassemble electronics, installation of dummy grounds

Transportation boards to SBU, start board testing

**Step 2.**

Work on HV cards and HV problems, 2-3 days

?? Cut the mylar window for wire removal ??, 1-2 days

Final test with HV

Work on electronics and its test at SBU - 5-7 days

**Step 3.**

Start signal board and ASD/TMC boards mounting after HV work finished. 2-3 days

**Step 4.**

Final electronics assembling and testing. 3-5 days

## Requested PC maintenance for this summer from Anders Oskarsson (7/23-8/13)

East arm. Pull DC/PC out on permanent rail. Half a day manlift help West arm: Pull DC/PC out on permanent rail. 2 hrs manlift help. (Anders estimates)

In detail We have the following problems to deal with:

### EAST ARM

-Packet 4027, 3rd from bottom on PC1E, north side. This has been replaced once. Worked for a while after that but then bad again with the same error. Suspect the white LV connector. Try to locate the problem with measurements with DVM before removal of FEM. If we can verify connector problem we dont need to replace FEM.

-Packet 4031. Second FEM from the top on PC1E north side. No light in DCM fiber according to John. Need to take the board down and replace it. Can possibly be repaired.

Each of these actions need a couple of hours manlift help. Needs East arm to be operable so that functionality after repair can be established. We probably need to pull the DC/PC package out. It should be sufficient to pull it as far as the original rails go. Hopefully that can be done without uncabing the LV and HV.

### WEST ARM

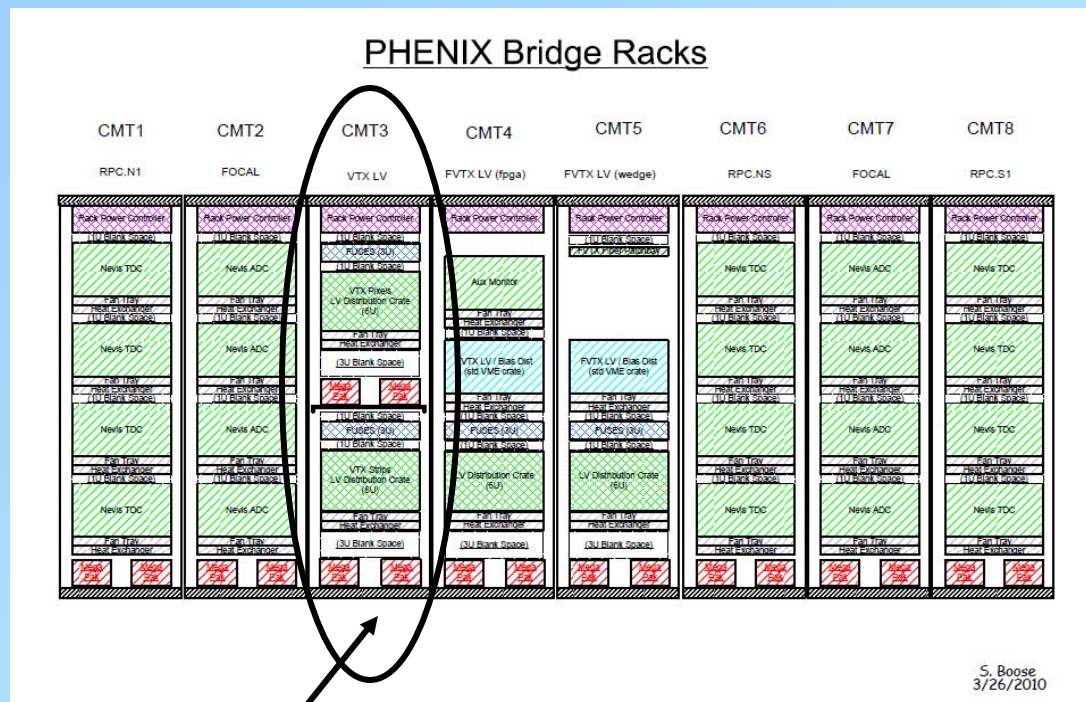
-Packet 4008, PC1W, topmost FEM on south side. This has had an unstable behaviour since the first year of running. Now with CM out I hope it is possible to get there. This would be the first time in 10 years when this is possible. Needs a manlift to get to the FEM. Possibly also to pull out the DC/PCWest out, but since it is the top one one may be able without pulling it out . Need to operate the electronics after change.

-Likely broken wire in PC3\_WS\_BS1. Verify that its a broken wore. If so, the only thing we can do is to localise the short and disconnect HV to the shorted wires to make the sector operable again. This can be done without help from the 1008 crew and I dont see that it can interfere with anyone since the work is done from inside the mounting boxes for PC2/PC3.

Unfortunately, disconnecting the wires has not been so succesful in the past since the broken wire tends to move and shorts new wires. But this chamber is rather horizontal so gravitation will have small influence on the loose wire.

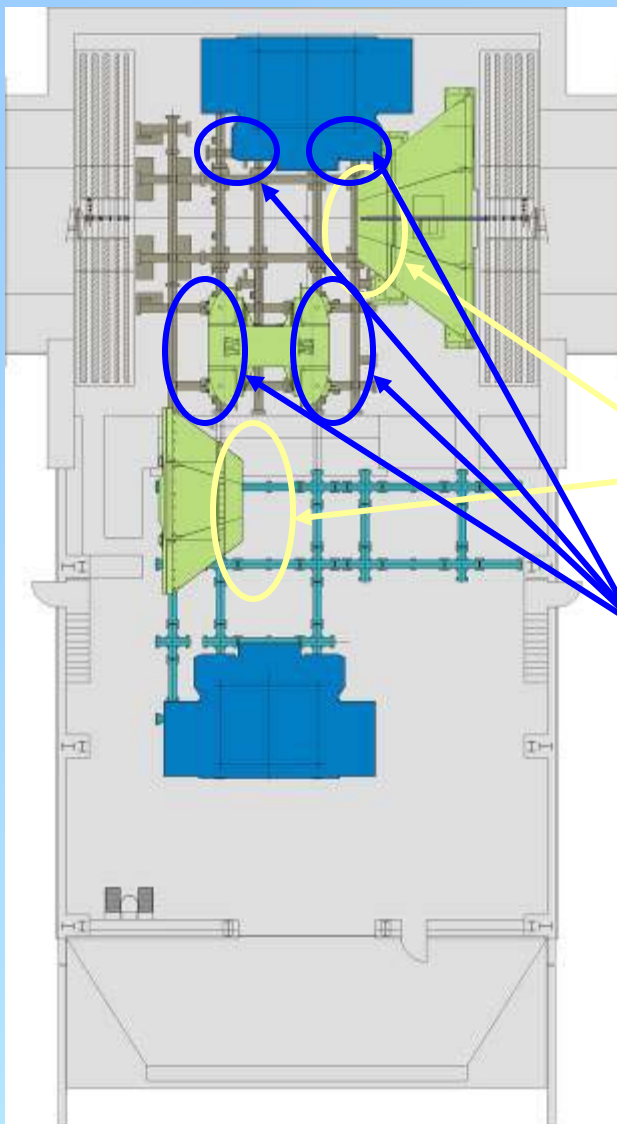
## Bridge Work this shutdown

TECHNICAL SUPPORT 2010



This rack to be installed this summer

1. HBD, RXNP Racks to be removed intact
2. Remove electric panels from 2 north sections of bridge
3. Tempooary support for water pipes and cable tray
4. Remove 2 north sections of bridge to enable absorber installation
5. Reinstall 2 north sections, reconnect plumbing and cable trays to 2 north sections of bridge
6. Upgrade electric service to support 8 racks
7. Install 1-3 racks for VTX/ FVTX electronics



We expect the major PHENIX carriages and magnets to be in this configuration for most of August 2010. During this period the old PHENIX beam pipe is removed, the north and south side of the CM is prepared for the absorber, the absorber is installed, work is done on MuTr and MuTrigger station 1, North and south and DC west.

Use CAD scissor-lift manlift to access work in these areas

Use (new?/PHENIX/CAD) manlift(s) to access work in these areas

Work on EC, MuTr and MuTrigger Stations 2 and 3, and other subsystems in the EC and WC may also be performed during this period by subsystem experts, but PHENIX tech assistance will be extremely limited or not available and additional scaffolding (e.g. inside Muon magnets will not be available), and manlifts will not be available for these efforts.

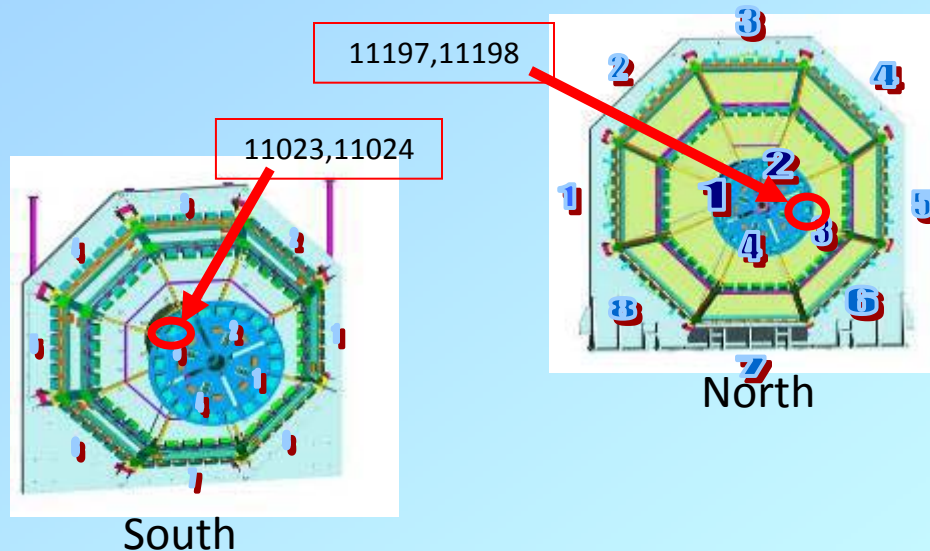
## Shutdown 2010 - muTr FEE repairs 8/2-8/20

PHENIX

TECHNICAL SUPPORT 2010

FEE - one FEM in each station-1

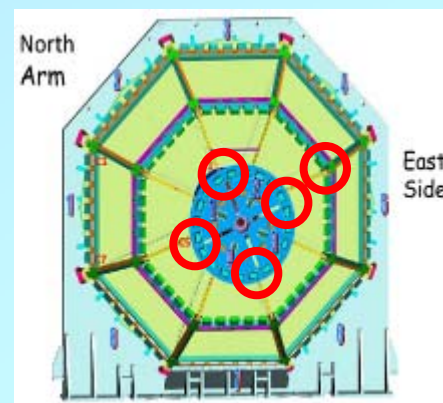
- 11023, 11024 - south S1 Q3 C2 (top); may be glink/clink RX module
- 11197, 11198 - north S1 Q3 C4 (bottom east); probably controller



## Shutdown 2010 - Calibration cable termination repairs 8/2-8/20

Calibration cable connections - fix terminations

- north S1 - O2 G1; O3,4 G3; O6 G3; O8 G2 - all infinite termination now
- north S1 - O3,4 G1,2 - 57 ohms (rest all 105 ohms)
- north S2 - O5 G1 -  $\frac{1}{2}$  gain of all others (probably can't reach)



## Shutdown 2010 - MuTr HV

7/1-8/31

- disabled but cannot be reached (S271-6, S311-0, S331-2, N222-6, N341-0)
- S381-5 high current - also can't be reached?

Nothing can be done w/o scaffolding

Table with 10 columns: S271-6, S311-0, S331-2, N222-6, N341-0, S381-5, S381-6, S381-7, S381-8, S381-9. Rows show various HV levels and status indicators.

Table with 10 columns: S271-6, S311-0, S331-2, N222-6, N341-0, S381-5, S381-6, S381-7, S381-8, S381-9. Rows show various HV levels and status indicators.

## Shutdown 2010 MuTr/MuTrigger - Other

muTrg, Itaru et al.

- south S3 O7 - threshold problem
- north S3 O1 - high noise (not reachable); S3 O4 - bad ADTX board

South arm disconnect/reconnect (fibers, power)

- lower glink/clink crates on top of eyebrow (to fit thru big IR door)
- move out/in; reconnect & test

Anode terminations

- station-1 gap-1 both arms - recap & terminate?
- station-2 all gaps, where we can reach w/o scaffolding (2 lower octants/arm) - terminate (under dry-air manifolds)?



# New Beampipe Pre-Installation Prep

TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Design BP installation and survey tools/fixtures	Done	
Receive BP transitions & spool back at BNL from SAES after NEG Coating	Done	
Receive bp back at BNL	8/13/2010	Mapes, Riggers to move from rec'g to CAD
Final acceptance and inspection bp and sections	8/20/2010	Mapes, Riggers to move from CAD to PHENIX
Fabricate BP installation and survey tools/fixtures	8/20/2010	CS

# VTX Subassembly, Top Assembly, Installation and Integration Prep

TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
VTX Survey Plan	7/31/2010	Consult w/ F. Karl
Design fixtures, techniques and mockups for installation, alignment and survey	7/31/2010	PHENIX Design & Engg
Beampipe & VTX Installation Work Permits	7/15/2010	D. Lynch, CAD Safety Approval
4 <sup>th</sup> of July Holiday	7/5-7/6/2010	Enjoy the long weekend
BigWheel Fabrication & Procurement	7/31/2010	PHENIX, CS
Receive, inspect, test, rework and qualify components, assembly tools and fixtures, electronics for racks, cables, cable management etc.	7/31/2010	PHENIX Design & Engg
Fabricate fixtures, techniques and mockups for installation, alignment and survey	8/31/2010	CS, PHENIX Techs
Assemblies, Mock installations/alignments, bench tests	8/31/2010	PHENIX Techs
Receive & inspect components (installation, support, alignment & Survey)	9/15/2010	PHENIX Techs
Cooling system procurement	9/30/2010	Pisani Coordinate with CAD Cooling Water, Electrician

7/15/2010

# RPC3 Pre Shutdown Prep

TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Assemble, test and burn-in 1/2 octants	7/31/2010	In Progress @ RPC Factory
Fabricate Absorber Details	7/31/2010	In Progress @ Vendor & CS - RPC Group and PHENIX
Fabricate/procure Absorber Installation fixtures & tools	7/31/2010	In progress @ CS, Lifting Fixture approval in progres PHENIX Techs

## Beampipe De-installation

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Remove MPC's	In Progress	PHENIX Techs ASAP →
Remove BBC's	Done	PHENIX Techs ASAP →
Position MMS for Vacuum break	7/19/2010	PHENIX Techs
Install Temporary supports for old BP	7/19/2010	Supports TBD →
Break vacuum on north side of MMS	7/19/2010	CAD Vac Techs
Remove south bellows	7/19/2010	CAD Vac Techs →
Move MMS north, remove spool and south3-5 transition	7/20/2010	PHENIX Techs
Move the MMS south & Prep MMS for move to AH	7/23/2010	Begin MMS prep with shutdown start →
Move CM south, remove north bellows	7/23/2010	PHENIX & CAD Vac Techs
Move old Be bp south into MMS and move CM north	7/23/2010	PHENIX Techs →
Move MMS to shutdown park position	7/23/2010	PHENIX Techs →
Remove old Be BP	7/23/2010	PHENIX Techs
Move CM south and east	7/23/2010	PHENIX Techs
Remove north 3 to 5 transition	7/23/2010	PHENIX Techs →

7/15/2010

# New Beampipe installation

PHENIX

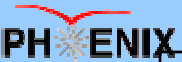
TECHNICAL REPORT NO-0

Task	Due By	NOTES
Prepare north 3 to 5 transition for installation with roller guides, bakeout wrap and thermocouples	8/13/2010	PHENIX Techs & CAD Vacuum Techs
Prep CM North and South for Absorber and install	8/13/2010	PHENIX Techs
Install north 3 to 5 transition in MMN	8/13/2010	PHENIX Techs
Install new Be pipe in CM on temp supports	8/17/2010	PHENIX Techs
Move CM back to beamline & connect new Be BP to 1-5/8 transition and bellows and north 3-5 transition	8/17/2010	PHENIX TechsPHENIX Techs
Move CM to run position	8/18/2010	PHENIX Techs
Prealign Be/Alum pipe with transitions attached on new BP supports At MPC north, BBC south and north nosecone	8/19/2010	Surveyors & PHENIX Techs
Prepare south 3 to 5 transition for installation with roller guides, bakeout wrap and thermocouples	8/19/2010	PHENIX Techs
Install south 3 to 5 transition, bellows and 1-5/8 to 3" transition in MMS	8/20/2010	PHENIX Techs
Move MMS back into IR on beamline	8/20/2010	PHENIX Techs
Move CM south, slide Transition assembly in MMS north and connect to new Be BP	8/20/2010	CAD Vac & PHENIX Techs
Move CM and MMS north and install south spool. Leak check. Move MMS South	8/27/2010	PHENIX Techs
Install temporary bakeout supports	8/27/2010	PHENIX Techs
Install bakeout blankets and monitoring	8/27/2010	CAD Vacuum Techs
Labor Day Lab Holiday	9/6/2010	Enjoy
Bakeout New BP and activate NEG coating	9/10/2010	CAD Vacuum Techs
Leak check BP	9/10/2010	CAD Vacuum Techs
Re-install MPC's & BBC's including Cables and services	9/24/2010	PHENIX Techs Concurrent
Move CM to run position	9/24/2010	PHENIX Techs
Final alignment of new BP	10/1/2010	PHENIX Techs

May be 1-2 week slide in this area

7/15/2010

# VTX Installation, VTX Services and Electronics



TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Presurvey VTX $\frac{1}{2}$ detectors in Chemistry lab	10/1/2010	PHENIX TECHS and BNL Survey, 1 week
All VTX detector, support, installation, alignment and survey parts and assemblies complete, ready for installation	10/1/2010	All sources
Install and align VTX rails perpendicular to beam line	10/8/2010	PHENIX Techs
Install and align west half detector module	10/15/2010	PHENIX Techs & Survey →
Install and align east half detector module	10/22/2010	PHENIX Techs & Survey →
Install mechanical support structures for VTX services and electronics	10/29/2010	PHENIX Techs Concurrent Effort →
Install Cable trays	10/29/2010	→
Install racks	10/29/2010	→
Install chiller	10/29/2010	→
Install cables, plumbing	10/29/2010	→
Connect cables and plumbing	10/29/2010	V →
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
Test, de-bug and commission	12/1/2010	PHENIX Techs

7/15/2010

# RPC3 South Prep, Early Shutdown

PHENIX

TECHNICAL SUPPORT 2010

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Remove wiring, walkovers, FCAL and scintillator hardware that would otherwise interfere with installation	Done	PHENIX Techs
4th of July Holiday	Done	Enjoy
Address legacy items/problems as convenient prior to shutdown start	Done	PHENIX Techs in progress
Install lighting & relocate sensors as necessary	In Progress	Electrician in progress
Temporarily relocate, re-position or otherwise address interfering piping, cable trays	In progress	PHENIX (w/ CAD Help?), Electrician
Remove RPC prototype	Done	PHENIX/CAD Techs
Pre-survey $\frac{1}{2}$ octant reference points	8/13/2010	PHENIX Techs & Surveyors
Drill and tap $\frac{1}{2}$ octant and rotating piston mounting points	8/13/2010	PHENIX Techs
Build/install access and work platforms for walk on top of MuID steel including stairs from MMS eyebrow	8/13/2010	Carpenters
Final cleaning and prep of gap 5 for grouting	8/20/2010	PHENIX Techs
Labor Day Lab Holiday	9/6/2010	Enjoy
Pre-installation orientation meeting with masons and riggers	8/20/2010	PHENIX Techs Masons & Riggers
Position lifting equipment in tunnel	8/27/2010	Riggers
Move east and west base structures into south tunnel and assemble on east and west sides of pedestal respectively. Include translation control fixtures	8/27/2010	Riggers & PHENIX techs

These items should be ahead of schedule

# RPC3 South Installation



TECHNICAL SUPPORT 2010

Task	Due By	NOTES
Install and align base structures on east and west sides of gap 5	9/3/2010	PHENIC Techs & Riggers
Prepare for grouting	9/3/2010	PHENIC Techs & Masons
Install grout	9/3/2010	PHENIC Techs & Masons
Install pitch control rails on pedestal and gap 5 east & west inner walls	9/3/2010	PHENIC Techs
Install upper suspension support hardware	9/3/2010	PHENIC Techs
Install $\frac{1}{2}$ octants, 2 at a time in accordance with work plan/work permit	10/1/2010, sooner is better	Riggers & PHENIX Techs
<i>Transport <math>\frac{1}{2}</math> octants 2 at a time from RPC factory to south tunnel on angled transport carts</i>		
<i>Transfer <math>\frac{1}{2}</math> octants from angled transport carts one at a time to temporary free standing and re-orienting roller fixture (fore and aft wheels and axel)</i>		
<i>Lift (and re-orient if appropriate) <math>\frac{1}{2}</math> octant and install into base structure, previously installed <math>\frac{1}{2}</math> octant or upper suspension hardware as appropriate per work plan</i>		
<i>Pre-align each <math>\frac{1}{2}</math> octant as installed</i>		
<i>Perform electrical integrity tests before proceeding to next pair of <math>\frac{1}{2}</math> octants</i>		
<i>After all <math>\frac{1}{2}</math> octants are in place and tested, join east and west halves of full south station 3 detector and align to survey markers</i>		

7/15/2010

## RPC3 South Integration

TECHNICAL SUPPORT NO. 0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Final survey	10/8/2010	Surveyors
Install new cable trays and piping supports	10/15/2010	Electrician, PHENIX Techs earlier if possible
Re-install MuID wiring and pipes	11/5/2010	PHENIX Techs
Install south thermal/vapor barrier	11/19/2010	CAD contractor
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
Re-install MuID gas rack	11/30/2010	PHENIX Techs
Commissioning and final acceptance tests	11/30/2010	RPC Group
Install RPC3 HV, LV and signal wiring and gas lines	11/30/2010	PHENIX Techs
Install RPC3 South gas distribution rack	11/30/2010	PHENIX Techs
Re-install shielding	11/30/2010	Riggers
Install RPC3 South environmental controls (heaters and thermostats)	11/30/2010	Electrician

*We want to get this task started immediately after last  $\frac{1}{2}$  octant is installed, so we can finish no later than this date*

## Shutdown 2010 Other Work

TECHNICAL SUPPORT 2010

<u>Task support</u>	<u>Due By</u>	<u>NOTES</u>
Gas Pad expansion completion (grouting)	Done	Tasks TBD
RPC3 North unfinished business	8/31/2010	Electronics and cabling, grounding issues, environmental controls
MuTrigger FEE unfinished business	8/31/2010	MMS cable trays,
RHIC Summer Sunday Tour	8/8/2010	During bakeout
DC/PC maintenance/repair (after EC is in)	11/15/2010	FEM and wire troubleshooting and repairs, major efforts will require longer shutdown
Thanksgiving and Black Friday Holiday	11/25 & 11/26/2010	Enjoy
PHENIX Survey Review	11/30/2010	PHENIX Techs & Survey
Procedure Updating	11/30/2010	PHENIX Engineering
Gas Mixing House maintenance & Repair	11/30/2010	Tasks TBD
PHENIX Infrastructure maintenance, repair, upgrade	11/30/2010	TBD
Gas Pad: new gas storage details	11/30/2010	Tasks TBD
Gas Pad services for new dewar support, maintenance and improvements	11/30/2010	TASKS TBD

## Shutdown 2010 Other Work (Cont'd)

TECHNICAL SUPPORT 2010

<u>Task support</u>	<u>Due By</u>	<u>NOTES</u>
AH Flood prevention improvements	11/30/2010	Tasks TBD
IR Bridge Electrical service upgrade	11/30/2010	Support for 4 full racks in 2010, 4 more (8 total) in future, PHENIX Techs & Electrician
RPC Factory Support	11/30/2010	Tasks TBD
Rack Room upgrade	11/30/2010	Tasks TBD
PHENIX Design Documentation	11/30/2010	PHENIX Engineering
CM Crane	11/30/2010	Currently on hold for re-evaluation
CM alignment stops	11/30/2010	TBD
Gas System maintenance, repair, upgrade	11/30/2010	Tasks TBD
Other subsystem maintenance, repair/upgrade	11/30/2010	Tasks TBD
Future upgrade support	11/30/2010	RPC1, FVTX, FOCaI, other Tasks TBD
Prepare for Run 11: EC platforms fold up in AH, fold down in IR, EC Equipment lift take down in AH, Install in IR, Install shielding wall base and build shielding wall & Install MMS Lampshade	11/30/2010	Normal end of shutdown tasks, typically taking 3-4 weeks: Riggers & Carpenters, CAD Techs
Run 11 Start	12/1/2010	
End of Shutdown Party	~12/3/2010	

# 2010 Building Maintenance Issues

TECHNICAL SUPPORT NO-0

- Roof leaks in utility bathroom at northwest corner behind tech offices, over door between rack room and assembly hall and over door between control room and elect. ass'y room.
- General maintenance for Trailer Offices (in progress)
- Trailer Office Modifications planning in progress (new exterior siding)
- Roof leaks in laser room and IR (southeast corner)
- Flooding in AH/ Driveway heaving [Lake PHENIX]



Progress?



7/15/2010



To be located in front of  
AC on east side of GMH

## Proposed shed addition to Gas Mixing house

Purpose: to house/store  
larger bottles for R134A to  
keep up with TOF West &  
RPC requirements. No  
flammable gas, standard  
shed with heat. Barn style  
doors desirable. Place on  
asphalt with no threshold to  
allow bottle management  
with pallet lifter.

## PHENIX Procedure Review Current Status:

## 148 Procedures Identified

- 85 Made Inactive (not currently in use, will require revision to re- activate if and when necessary, available for reference purposes)
- 9 CAD procedures relevant to PHENIX, all are up to date and available on the CAD web site
- 42 PHENIX approved procedures.
  - all are current and up-to-date (1 of these soon needs updating, 3 are up-to-date but need sign offs)
- 11 Proposed/Draft Procedures (never previously formalized) (3 are ready for review)

Web retrieval of latest procedures now available from PHENIX Internal:

[http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL\\_procedures.htm](http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_procedures.htm)

TECHNICAL SUPPORT NO-0



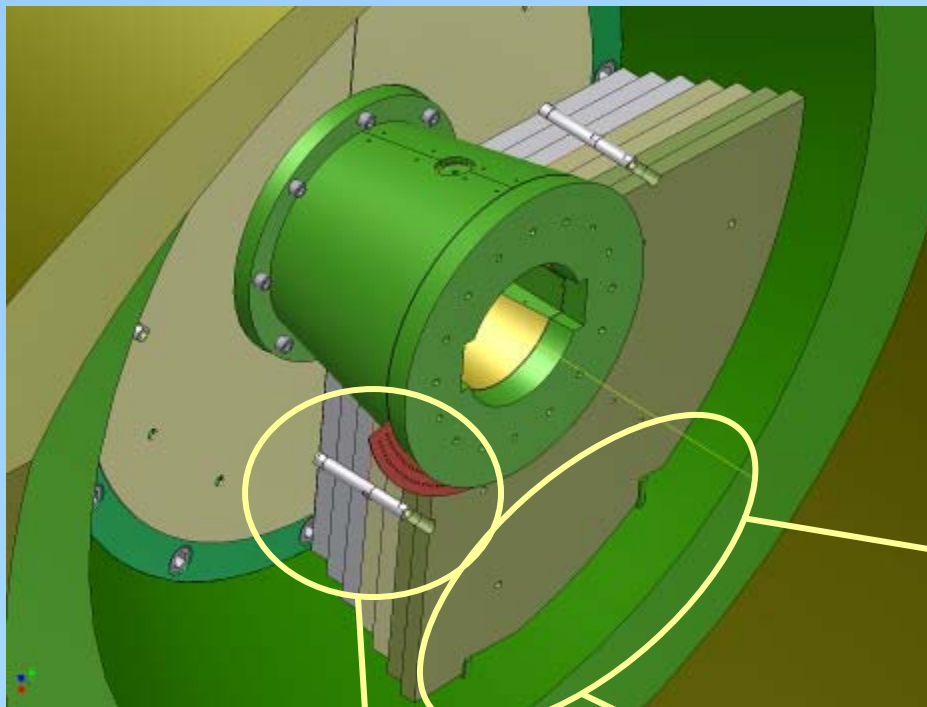
Need to take off 2 sections of Bridge to install north absorber.



- PHENIX Techs and electrician remove racks and breaker boxes and plumbing manifold

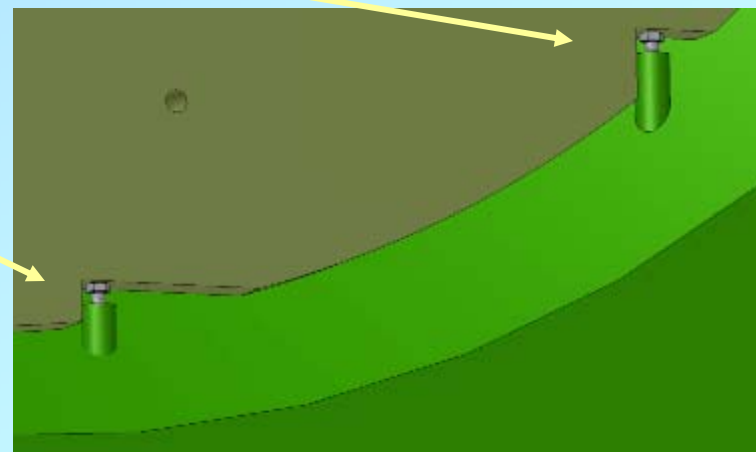
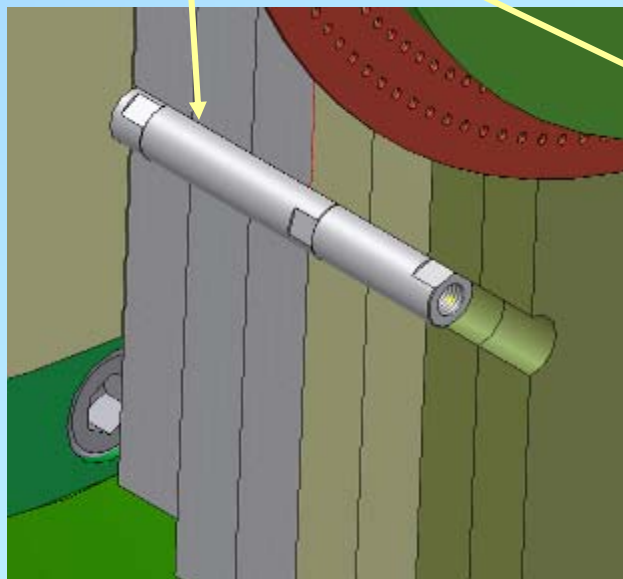
- CAD techs/Riggers take bridge sections down. Need this done by 8/6

7/15/2010



## RPC Absorber Final Design

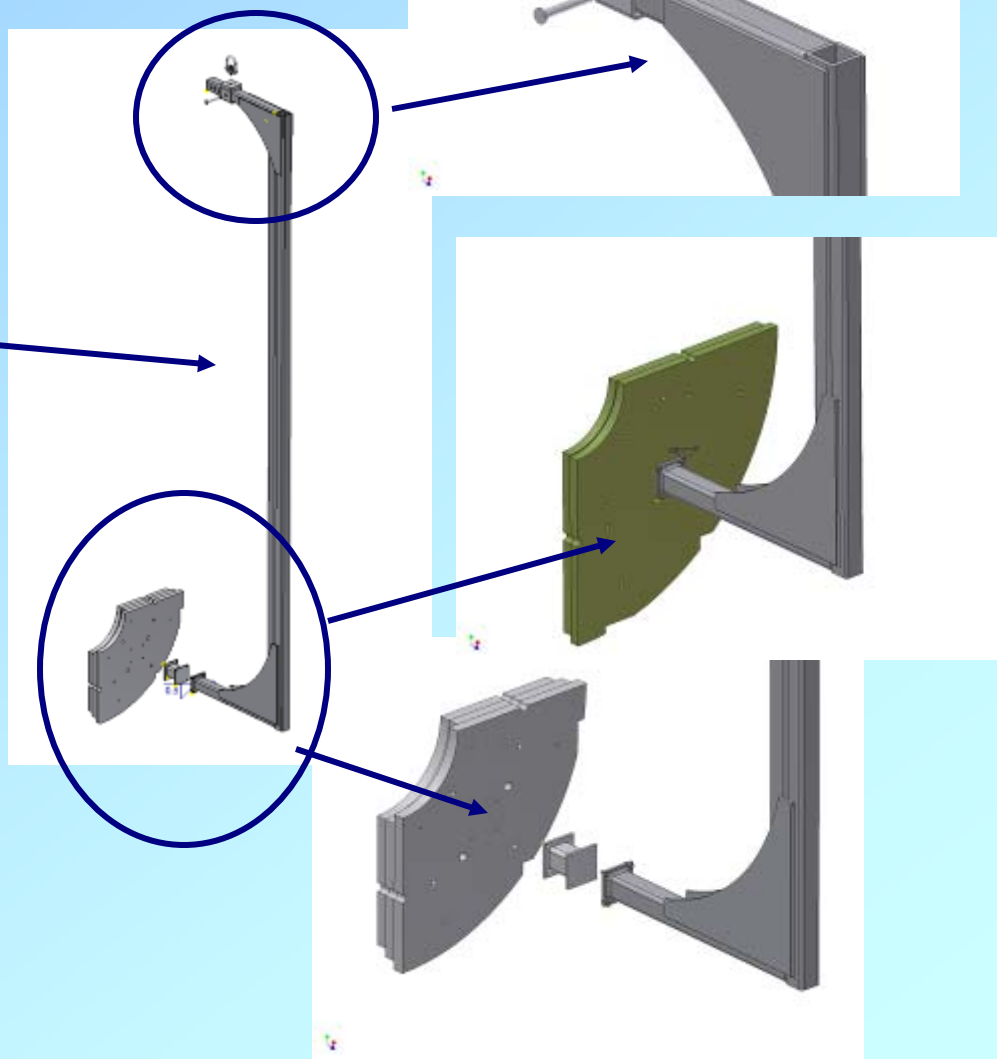
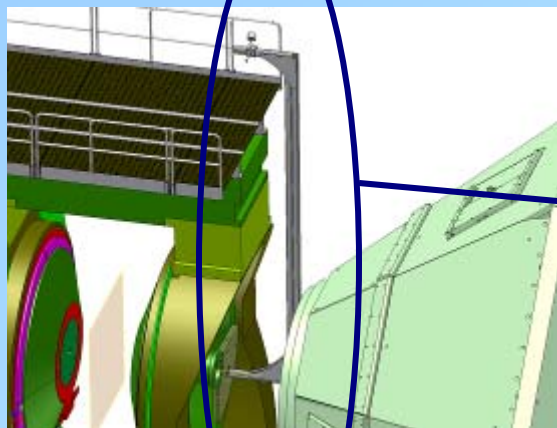
- Welded & tapped vertical support bossess
- 3 stage positioning rod

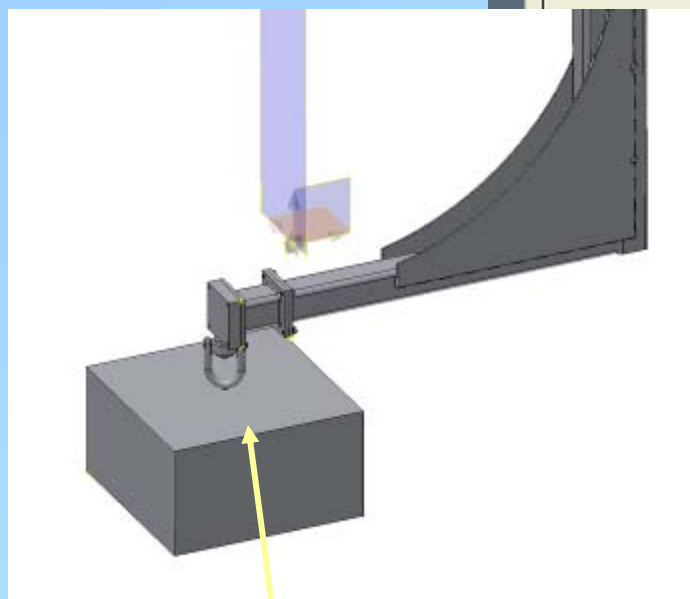


Absorber PO has been placed with ATLAS Tool and Die Works (Chicago)

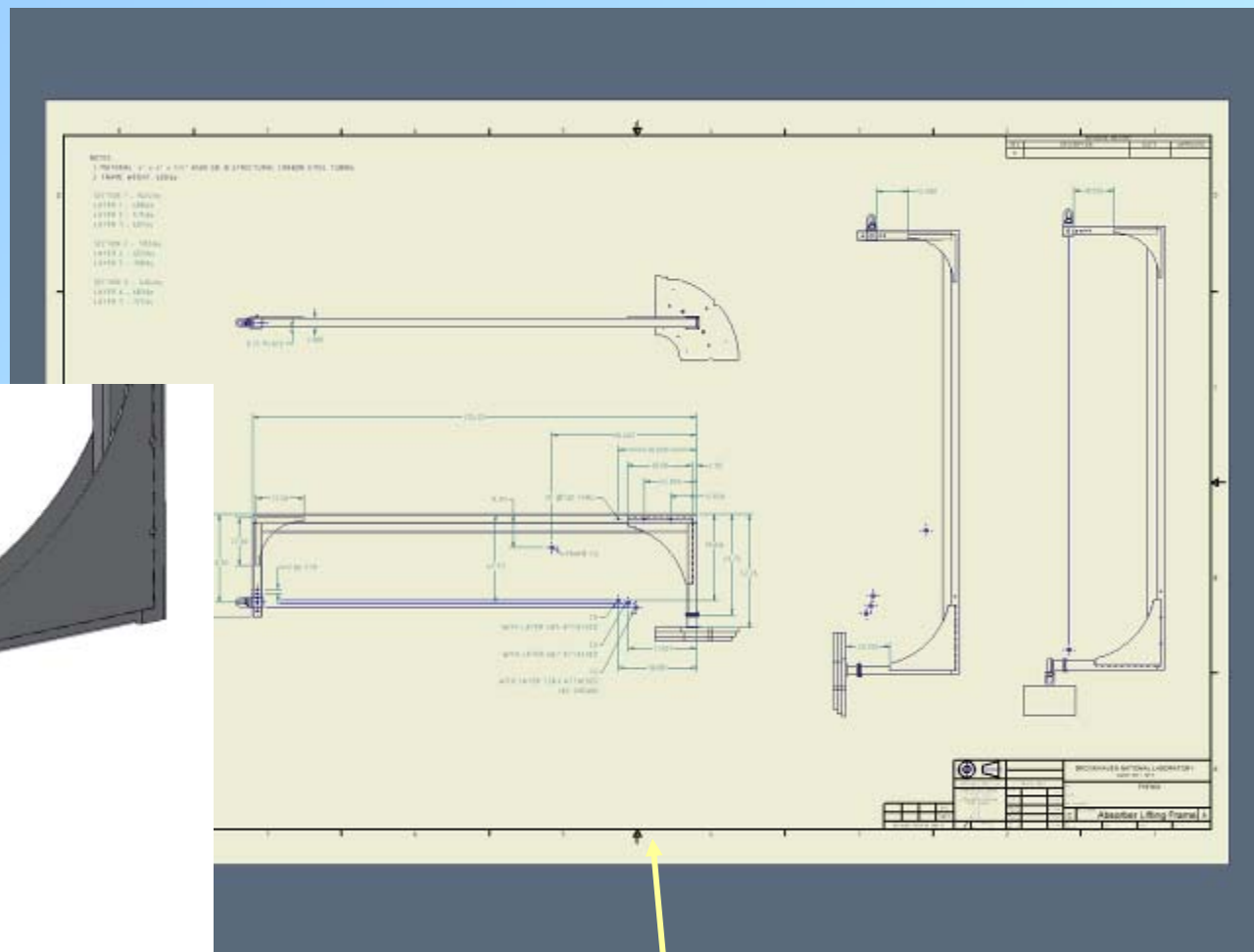
# Absorber Instalation Concept

TECHNICAL SUPPORT NO-0





Design for absorber lifting fixture test arrangement



Absorber Lifting Fixture, initial design is complete, analysis in progress

# Safety, Security, Etc.

1. Please check your laptop batteries to prevent fire hazard:
  - a) Verify that your laptop has a date tag placed on it. The Communications and Electronic Support Group of C-AD places these tags on all new laptops since February of 2010.
  - b) If your battery is 3 years old or it no longer holds a charge for a reasonable time – please replace the battery to prevent a battery fire from overcharging.
  - c) **Note:** MacBook or MacBook Pro laptops only need replace batteries every 5 years
  - d) Make sure you put an installation date tag on the new battery when you put it into your computer.
  - e) The basis for the battery replacement may be referred to by reading the Critique:
  - f) [http://www.c-ad.bnl.gov/ESSHQ/SND/Occurrences/Critique%20-%20Lap%20Top%20Fire\\_Display%202009-007.pdf](http://www.c-ad.bnl.gov/ESSHQ/SND/Occurrences/Critique%20-%20Lap%20Top%20Fire_Display%202009-007.pdf)

## 2. Installation Reviews, Action Items:

### RPC3S

- Review the design of the new cable tray to assure NRTL compliance (Sandberg July 30, 2010)
- Review the refitted flammable gas piping, test and associated documentation (Phillips, Gaffney October 30, 2010)
- **Assure that appropriate fall protection is in place for the RPC installation (Phillips, Cirnigliaro July 30, 2010) - Done**

## Absorber

- Submit the new lifting fixture design and structural analysis for review by the C-AD chief mechanical engineer (Lynch, June 20, 2010) (Done)
- C-AD to check the calculations and review and submit to the Laboratory Safety Committee for approval (Tuozzolo, Snyderstrup June 30, 2010) (Done)
- Test and certify the lifting fixture to 125% of rated load (Kane, Gaffney, Lynch July 30, 2010)

## VTX

- Assure the installation of stops on the rails to protect the beam pipe. (Lynch, Phillips Oct 1, 2010)
- Provide the flow rate of dry nitrogen into the VTX (Pisani, Oct 1, 2010)
- Provide the engineering report of the interconnections of the VTX cooling system (Lynch / Gaffney Oct 1, 2010)

## Beampipe

- No action items from the ESRC

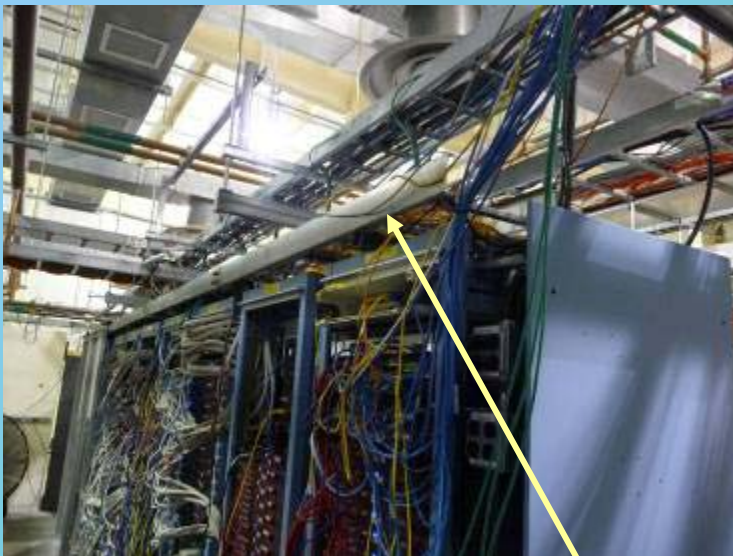
3. Tunnel expected to remain at ODH1 for run 11. If you expect to need to access the tunnel during the next run, please make sure you have all 3 parts of the access requirements up to date by the end of October:

- 1) The web-based course (1-Year Requalification Period): TQ-ODH1.
- 2) The Practical (3-Year Requalification Period): AD-ODH-1-TRG.
- 3) The Medical Surveillance (18-Month Requalification Period): OM-MEDSURV-ODH.

## Rack Room Gutter Cleaning

- Soon we are replacing the main Event Builder Switch with our new flagship switch.
- Means a lot of cable pulling in the “Event Builder Aisle”
- In particular the cable tray on top of the rack has a lot of sediments which would benefit from a start from scratch

This is how it looks



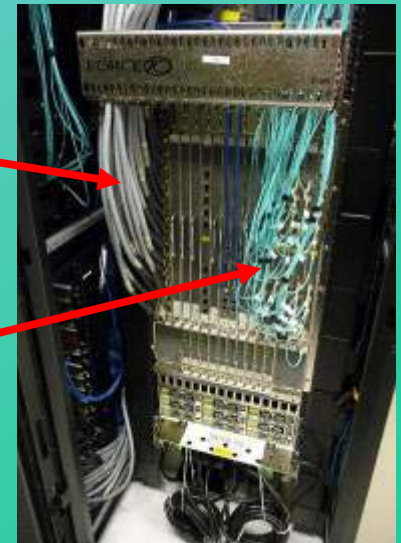
- **The Event Builder Aisle**
- **This is the tray I'm talking about**

Standard Gigabit ports

“MRJ-20” cable bundles with 6 Gig ports each go to patch panels (or directly to the machines) May make our cable distribution easier, bring a few bundles to the racks

10GbE ports

The future Switch

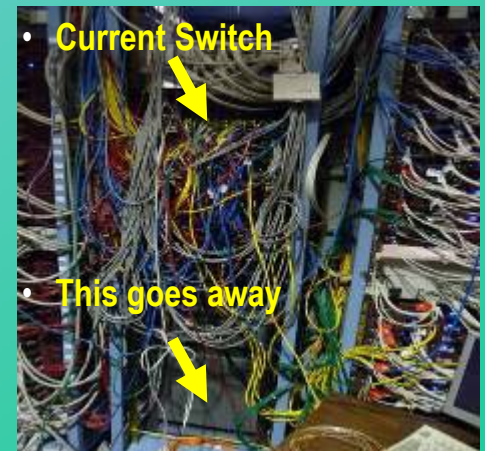
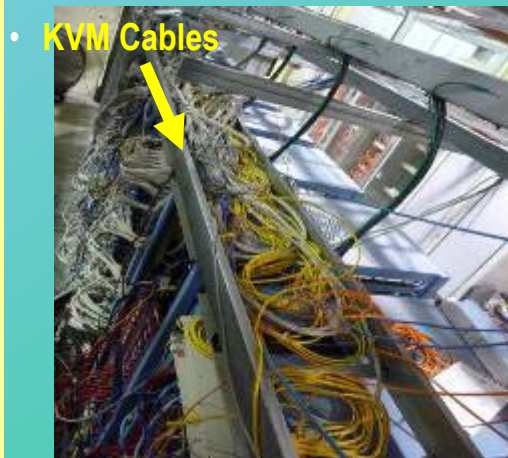


### The Task

- We'll rig up a few alternate connections to the first two racks to keep them alive (I do that)
- We disconnect all network cables (about 150 or so) and pull them out, roll them up without tangling them up, remove labels
- More than 100 are local to the rack row, about 50 go somewhere else
- There are fibers mixed in, they have to go out first
- Not by count but by bulk the KVM cables are the biggest, they stay, but it looks like many of them are on top
- From above this doesn't look like much, but on the ground it looks like a big deal

- When our run ends, we can get going (early June)
- Find some room to coil up the pulled cables
- Devise a good labelling scheme for the future
- Then think about putting the new stuff in
- 2 weeks? Reasonable?

### Tray from above and below



# Where To Find PHENIX Engineering Info

## July, 2010 Bizarre and Unique Holidays Month:

- National Blueberry Month
- National Anti-Boredom Month
- Unlucky Month for weddings
- National Cell Phone Courtesy Month
- National Hot Dog Month
- National Ice Cream Month

## Week Long Events:

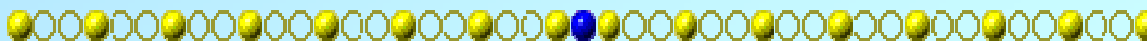
- Last Week was Nude Recreation Week... sorry we missed it

Specific Day events - Today (July 15) is Tapioca Pudding Day & Cow Appreciation Day



Links for the weekly planning meeting slides, archives of past meeting slides, long term planning, pictures, videos and other technical info can be found on the PHENIX Engineering web site:

[http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL\\_SSint-page.htm](http://www.phenix.bnl.gov/WWW/INTEGRATION/ME&Integration/DRL_SSint-page.htm)



7/15/2010

# Completed Tasks

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Prepare Installation Plan	Done	Done
Design Absorber Installation fixtures & tools	Done	PHENIX Engg & Design
Receive purchased parts	Done	PHENIX Techs
Fabricate PHENIX parts	Done	CS, PHENIX Techs
Receive and inspect CS fabricated parts	Done	PHENIX Techs
Prepare work permit for installation	Done	Currently at CAD Safety Approval
Pre-Assemble base components at PHENIX	Done	PHENIX Techs
VTX Installation Plan	Done	PHENIX Design & Engg
Installation Review (ESRC)	Done	Set up With Y. Makdisi
Specify components, assembly tools and fixtures, electronics for racks, cables, cable management etc.	Done	PHENIX Design & Engg
End of run 10 (Party)	Done	Done
Commissioning Tests (HV, Mixed gas and Freon only)	Done	Done
Choreograph removal of old beampipe and installation of new (final)	Done	Done
Beampipe Installation Review (Final)	Done	Done

7/15/2010

# Completed Tasks

TECHNICAL SUPPORT NO-0

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
DAQ Tests	Done	PHENIX
Purge Gas From Detectors	Done	PHENIX, CAD remove LOTO
Install and align VTX rail attachment hardware to CM	Done	Using the HBD I-beam attachment hardware
Install and align VTX rails parallel to beam line	Done	Using the HBD I-beams
Remove BP Collar	Done	Done
Move MMS south	Done	PHENIX Techs
Prep EC for move to EC	Done	PHENIX Techs
Close North and South BP gate valves and lock closed for until new BP is installed	Done	CAD Vac Group
Open and disassemble wall	Done	Done
Remove EC ladder and fold platforms	Done	Carpenters & Riggers
Move EC to AH	Done	PHENIX Techs
Install cart	Done	PHENIX Techs
Move Collars to AH	Done	PHENIX Techs
Install decking	Done	PHENIX Techs
Remove/relocate shielding	Done	Riggers
Remove crystal palace & vapor barrier	Done	CAD
Install Manlift	Done	PHENIX Techs
Send beampipe to CERN for NEG Coating	Done	CAD Vacuum

7/15/2010

# Completed Tasks

TECHNICAL SUPPORT NO-O

<u>Task</u>	<u>Due By</u>	<u>NOTES</u>
Remove RPC2 Prototype, support brackets, cabling & Piping	Done	In Progress PHENIX Techs, CAD Techs , Electrician
Remove MMS east vertical lampshade	Done	CAD Techs
4th of July Holiday & Floating Holiday	Done	
Remove HBD's and HBD cables Remove RXNP's and cables	Done	PHENIX Techs ASAP
Remove/relocate shielding	Done	Riggers
Remove crystal palace & vapor barrier	Done	CAD
Inspect Gap 5 south for legacy items/problems	Done	PHENIX Techs